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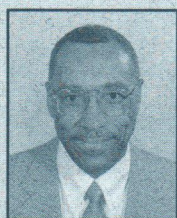
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News

THE VOICE OF TELECOMMUNICATIONS IN HIGHER EDUCATION

July 1997



From the President

Dr. James S. Cross
Michigan Technological University

VoiceLAN: Where Does It Fit Into Your Plans?

As we transit toward the 21st Century, the voice telecommunications landscape continues to change dramatically. New and innovative products such as the voiceLAN offer the potential for lower cost and greater value in delivering voice communications services.

Although the most effective form of communication is face-to-face, the next best thing to being there is the telephone. Most people find voice communication is a lifeline because memos, letters, fax, and e-mail bring with them the limitations of written and printed communications. Voice communication is much more than mere words; it encompasses phrasing, inflections, and cadence. These value-added features and benefits are driving initiatives to enhance the current state-of-the-art of the "next best thing to being there."

VoiceLAN is the transmission of voice traffic interleaved with data over a local area network infrastructure. Today, voice traffic is transmitted across a separate circuit-switched infrastructure, with a PBX or key system serving as a centralized switch. VoiceLAN

Continued on page 2

ACUTA Conference Webcast

ACUTA plans to offer its first Webcast to be broadcast live from the 26th Annual Conference at the Atlanta Marriott Marquis on July 14, 1997. Broadcast services have been provided by World Lynx, Inc. of Little Rock, Arkansas.

The Webcast will begin with a test of video/audio reception at 7:50 a.m. EDT. At 8:10 ACUTA President Jim Cross will officially open the Conference. At 8:20 winners of ACUTA's first Student Papers Awards will be presented, and at 8:30 Dr. Wayne Clough, President, Georgia Institute of Technology, will deliver the Keynote Address. Webcast viewers will

be invited to submit questions for Dr. Clough via e-mail or fax.

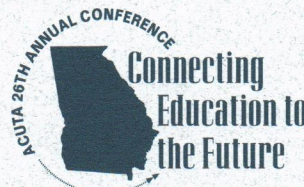
Easy instructions for viewing the Webcast live or after the Conference are available on the ACUTA homepage at

www.acuta.org: Install StreamWorks Player.

(Just click an icon to download players for Windows 3.1/95, Macintosh, or Unix plat-

forms.) Use links on the

ACUTA homepage to test StreamWorks; then bookmark the ACUTA Webcast Start Page on the World Lynx Webserver for viewing live on Monday, July 14 or for on-demand viewing after 1:00 p.m. July 14.



Board of Directors 1997-98

Effective at the close of the Annual Conference, ACUTA welcomes its new Board of Directors for 1997-98.

After a busy year as President, Jim Cross of Michigan Tech will serve as Immediate Past President while Margie Milone, Kent State, assumes the duties of President. Buck Bayliff of Wake Forest University was elected President-Elect, and Tony Mordosky, Millersville University, will be the new Secretary-Treasurer.

Returning as Directors-at-Large are Linda Bogden-Stubbs, SUNY Health Science Center, Syracuse, and Donna Borden, University of Delaware. Marianne Landfair, Indiana University System, was elected to a second term

as Director-at-Large, and Dawn Lotz, Marquette University, won her first Board position in the recent elections. Bill Brichta from Lehigh University, another newcomer to ACUTA governance, is the Board-appointed Director-at-Large.

Serving on the Board is regarded as an honor, an opportunity for personal and professional growth, and a serious responsibility. It requires a considerable commitment on the part of the individual and his or her school, and all who serve are to be commended.

Leaving the Board this year will be Immediate Past President Dave O'Neill, Eastern Washington University, and Director-at-Large Robert Sansom, FORE Systems.

Board Report

June, 1997

The monthly Board call took place June 5. Discussion centered around the latest FCC actions and ACUTA's position of passing information on to the membership.

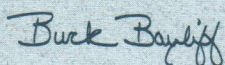
We held our first audio conference with more than 140 of our member institutions participating. We hope that you will consider future audio conferences as a supplement to the many educational offerings from ACUTA.

As a reminder, the ACUTA Resource Library is now available on the Web with the Products and Services Guide to be added by July.

The Board then met in Philadelphia June 7-8 to continue with Strategic Planning. Information is available on the homepage and we hope that each of you takes some time to look it over and give us feedback.

See y'all in Atlanta!

Respectfully submitted,



Buck Bayliff
Wake Forest University
ACUTA Secretary-Treasurer

President's Message

Continued from page 1

technologies interleave and switch voice and data traffic as frames or cells over a single network infrastructure, eliminating the need for separate cabling plants dedicated to voice or data. Converged voice and data traffic over a single network infrastructure offers the potential for:

- (1) lowering the cost for equipment, cable plant management, maintenance, and staffing
- (2) streamlining organizations and moving to a more efficient, less costly management structure
- (3) developing a new server-based telephony architecture for voice switches, integrated PC phone sets, and applications
- (4) blending voice and data messages into a single conversation among multiple users
- (5) editing a document with voice annotations and routing/broadcasting voice messages as we now manipulate e-mail.

The idea of integrating voice and data is not new, but previous attempts have met with only limited success because of the bandwidth-hungry demand of personal computers. While the data PBX was ideal at supporting low-speed data, it lacked the performance, appli-

cation diversity, and robustness that users demand and receive from LAN technologies.

Several developments have resulted in renewed interest in voice and data integration using a common transport mechanism. Perhaps the most notable is the trend toward the replacement of the traditional shared-media frame based LAN network (i.e. traditional ethernet and token ring) with switched-based frame-cell LAN networks (i.e. fast ethernet and ATM). Industry has also embraced the universal serial bus, a new physical interface for connecting phones to PCs.

There have also been improvements in LAN infrastructure technologies such as improved latency, class-of-service support, quality-of-service support, and non-blocking connections that enable LANs to support the low latency and non-blocking environment required for voice communication. From a management perspective, SNMP has become the protocol of choice for both data-oriented LAN products and voice PBX systems. There is also the ongoing work of the ATM Forum to develop variable-bit-rate technologies for better, more efficient, and flexible allocation of voice traffic over ATM.

These developments and the maturity of voiceLAN technologies will inevitably change the rules of infrastructure planning and deployment. New paradigms, visions, and criteria will evolve to define high quality access now and in the future. These new paradigms, visions, and criteria will provide the basis for assessing current and future business plans, processes, products, and services for the knowledge age university of the 21st Century. Given that state-of-the-art technology is at a point where voice and data integration is both possible and beneficial, the question becomes "when and what will it take for the college and university marketplace to embrace voiceLAN technologies?" It is essential that ACUTA help its members understand the critical issues as we transit from one generation of campus network to a new generation with enhanced value-added features, capabilities, and services.

ASSOCIATION OF COLLEGE AND UNIVERSITY TELECOMMUNICATIONS ADMINISTRATORS

ACUTA NEWS, Vol. 26, No. 7

PRESIDENT Dr. James S. Cross, Michigan Technological University

PRESIDENT-ELECT Margie Milone, Kent State University

SECRETARY/TREASURER Buck Bayliff, Wake Forest University

IMMEDIATE PAST PRESIDENT David E. O'Neill, Eastern Washington University

DIRECTORS-AT-LARGE: Linda Bogden-Stubbs, SUNY Health Sci. Ctr; Donna Borden, Univ. of Delaware; Marianne Landfair, Indiana Univ. System; Anthony J. Mordosky, Millersville Univ.; Dr. Robert Sansom, FORE Systems

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The opinions expressed in this publication are those of the writers and are not necessarily the opinions of their institution or company. ACUTA as an association does not express an opinion or endorse products or services. ACUTA News is published 12 times per year by the Association of College and University Telecommunications Administrators, a nonprofit association for institutions of higher education, represented by telecommunications managers and staff. Subscriptions: \$45 a year, \$4 per issue. Send material for ACUTA News to Pat Scott, ACUTA, 152 W. Zandale Dr., Ste. 200, Lexington, KY 40503-2486; ph. (606) 278-3338; fax (606) 278-3268; E-mail pscott@acuta.org.

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Visit our homepage: <http://www.acuta.org>

Welcome New Members

June, 1997

(Only primary representatives are listed here)

Institutional Member

- East Carolina Univ., Greenville, NC.
Thomas Lamb, 919/328-6401. Tier 4
- Univ. of No. Carolina, Pembroke, NC.
Jo Ann Pearson, 910/521-6384. Tier 2

Emeritus Members

- Robert D. Bursick, Ret. from Wayne State Univ., Lathrup Village, MI.
E-mail: rbursick@cms.cc.wayne.edu
- Coleman H. Burton, Ret. from Univ. of Missouri, Columbia, MO. E-mail: burtonc@ext.missouri.edu

Corporate Affiliates

COPPER LEVEL

- BellSouth Business Systems,
Greenville, SC. Mary Lee Hembree,
864/241-7157
- BTI, Raleigh, NC. John Druz, 919/510-7000
- Intermedia Communications, Inc.,
Marietta, GA. Gary Coleman, 770/429-5719



Voicemail: Technology We Love to Hate

In a survey of 1,000 consumers in late 1996, America's Research Group discovered that No. 1 on the list of technologies people wish had never been invented is the auto-attendant/voice mail. After following directions through a series of key-strokes, they may never talk to a real person and their message is frequently not returned. According to ARG founder C. Britt Beemer, quoted in *Investor's Business Daily* (5/22/97), "This is not only far and away the thing they most wish was never invented, but it's also probably the biggest negative to customer service today." Internet shopping came in second because customers found "it was more difficult than I thought it would be. And it took too much time." Another commented, "What happens if I have a problem with the product? I can't shove it in my hard drive and send it back." Car cell phones came in third place, viewed by many as a road hazard.



Music on Hold: Too Soft... Too Loud

Stephen J. Mahler
Director, Information Networks
University of Southwestern Louisiana

System administrators can easily get caught in a loop of raising and lowering the volume of the music on hold. The problem is not that users are deaf or too sensitive to the level of the music. Unless you have a music source created to play at a single level, the dynamics of most music will range from too loud to very soft, often within a single selection. Many callers hear your music on hold. Does your audio provide the image that you want to project?

The University of Southwestern Louisiana in Lafayette was not exempt from these problems. In the Fall of 1996 the music-on-hold source tape was the school song and the fight song. The recording had one song at a low level, and the other was tabasco hot! Everyone noticed the problem and the user comments encouraged me to find a solution.

We took a lesson from radio broadcast engineering. In a radio station the audio level is important to keep the transmitter operating correctly. To maintain the correct audio level, equipment can be interconnected with gain control amplifiers. A gain control amplifier (GCA) maintains a constant level of output for a wide range of input levels (i.e., it is like a person continuously moving the volume control up and down to maintain a steady volume).

Our music-on-hold configuration used a standard line out port of a home stereo amplifier. We connected the line out port of the amplifier to the music-on-hold (MOH) input (a Lucent 909 Universal Coupler), which in turn connected to the Auxiliary Trunk Pack selected for music on hold. I asked Mac Dula, Chief Engineer of KRVS-FM, to specify a GCA to meet our needs. He selected a GCA that used a 0-dBm output, and a threshold muting circuit. The line out port from the stereo amplifier is attached to the GCA input (the input levels accepted on our GCA ranged from mic to line levels). The GCA 0-dBm output was attached to the music-on-hold input. We tweaked a single

pot on the GCA and we had a consistent music level.

We found that 0-dBm into the MOH input (with all padding turned on in the coupler) was a little too loud. I placed a 25-turn pot (10K ohms) in series with the feed to the MOH input. This gave me very fine control of the music-on-hold volume. A 25-turn pot is like a volume control, but it takes 25 full revolutions of the knob to go from the softest to the loudest setting. At last, I had the precision control over the music level to make our music on hold sound professional.

With the addition of the GCA the requests to turn the music up or down have disappeared. This is an inexpensive way to provide the best audio for your clients on hold.

Included is a description of our GCA for reference only. (The University of Southwestern Louisiana and ACUTA do not recommend, approve, or endorse this product for any particular use.)

Manufacturer: Radio Design Labs (RDL) -
805-684-5415

Model: Stick-on Series ST-GCA1

Approx. Size: 0.75 x 2.5 x 4 inch

Power: 24-36 VDC (power brick works well)

Features: -40 dBV to +16 dBV input, balanced / HiZ / mic level outputs, 10 Hz - 20 KHz with < 0.3% THD, mutes output after 8 seconds below input gate, balanced or unbalanced inputs

Approx. Cost w/ Power Supply: < \$100

Reach Steve Mahler at mahler@usl.edu.



Spotlight

Welcome to two of ACUTA's most recent Corporate Affiliate members:

Environmental Design Intl. (EDI), an independent consulting engineering firm, designs voice & data communications systems: network & campus cabling systems, CATV, & project mgmt. Independent approach saves money, ensures options for growth, & improves coordination. *Jim Harrison 770/956-7002. www.editd.com*

Intermedia Communications is one of the nation's fastest growing telecom companies, offering an integrated package of local, long distance, voice, data, and Internet services to business and government customers in the eastern U.S. *Gary Coleman 770/429-5719*

Anniversaries to Be Recognized

Each year at the Annual Conference ACUTA recognizes those who have been members for 5, 10, 15, 20, or 25 consecutive years. If you are among those celebrating an anniversary this year, please check this list to see if our records are accurate. If you notice a discrepancy, please contact Kellie Bowman, ACUTA Membership Manager, at 606/278-3338, ext. 22 or e-mail kbowman@acuta.org.

5 Years

William Baker Univ. of Findlay
 Brian Boring Collin Co. Comm. Coll.
 Robert Bussell Bowdoin Coll.
 Pamela Chouinard Loyola Univ.
 Gary Corbett Northwestern Univ.
 Fred Davenport AT&T
 James DeHaven Bell-Atlantic
 Jerome DeSanto Univ. of Scranton
 Michael Eldridge ... Morehead State Univ.
 William Francis Grinnell College
 William Gilson ... College of Eastern Utah
 Joseph Gong Queens College
 Thomas Gross ... Bowling Green State U.
 Sharon Harris Univ. of MO/Rolla
 Debra Hedrick SE Okla. State
 Alvin Hopkins Univ. of So. Cal.
 Thomas Horne UNC Chapel Hill
 Michael Keany Kingsborough Comm.
 Dennis Kong Open Learning Agency
 Larry LaBossiere Georgetown Univ.
 Tony Lange Univ. of Redlands
 Rich Lehn Univ. of No. Dakota
 James Luke Guilford Coll.
 Gerry McCallum Seattle Univ.
 Diane Metzger Bucks Co. Comm.
 Kath Mullholand Univ. of NH
 Kerry Neibergall Drake Univ.
 Duane Newton Bitek
 Greg Norfleet Telesoft
 Mark Norviel Idaho State Univ.
 Daniel Oliveira ... Naugatuck Valley Coll.
 Stephen Ornstein Frostburg State U.
 Joe Pacuska Commonwealth Comm.
 Marv Peck Emory Univ.
 L. D. Phaup Jr. ... Hampden-Sydney Coll.
 Elta Ping Reed College
 George Pyo St. Francis Coll.
 Terry Rockwell.. Columbus State Comm.
 Joe Royer Anderson Univ.
 Michael Shvartsman Rice Univ.
 Walter L. Smith Lebanon Valley Coll.
 Humberto Speziani Univ. of Miami
 Donald Stanze Univ. of KS Med. Ctr.
 Marvin Taylor ... Eastern Oregon St. Coll.
 Jane Tederman Univ. of Portland
 Bert Trentin Bronx Comm. Coll.
 Nancy Turner Moravian Coll.
 William Valentine Cable Consultants
 Chester Wasyl Valparaiso Univ.
 Dan Webb Xavier Univ.
 Ellen Zissler Elert & Assoc.

Continued on page 5

By the time this arrives on your desk, many of you will already be in Atlanta for the 26th Annual Conference. It has been exciting preparing for this year's big event. Never satisfied with the status quo, we are entering our second quarter-century with a series of "firsts" in Atlanta:

- First remote broadcast of the Keynote Address, via the World Wide Web
- First Senior Leadership Forum for the exploration of strategic technology issues with university executives
- First Institutional Excellence Awards Luncheon
- Presentation of the first ACUTA Student Paper Competition Awards
- First pre-conference listserves for user groups, to establish communication and identify issues in advance
- First demonstration of the brand new on-line "Products and Services Guide," available on the ACUTA Web site.

These innovations, combined with the largest number of breakout sessions and pre-conference seminars ever offered by ACUTA, promise to create an outstanding experience for all who participate.

In case you are not able to attend, I hope you will consider viewing the video of the Keynote Address. It will be stored and available via the Web for one full year after the Conference, so check the ACUTA Web site for instructions on how to view it. In addition, the Conference handouts will be available on CD-ROM or in printed form, and most sessions will be audio taped. We are doing our best to help those who can't join us in Atlanta benefit from the information provided.

From ACUTA Headquarters

Jeri A. Semer, CAE
 Executive Director

Jeri Semer



In the midst of Conference preparations, the ACUTA staff has also been working on expanding the electronic services available to members via the Web. Recently, we added the Resource Library in a password-protected, members-only section of the Web site. Now you can download resource library documents at your convenience, without waiting for a faxed or mailed copy.

We need additional library resources in order to make this service more useful for members. If you have current samples of RFPs, job descriptions, policy manuals, advertising or marketing programs, disaster plans, or any other documents (preferably in electronic form, but we will also accept paper) that you feel would be helpful to colleagues in ACUTA, please send them to Kellie Bowman at our office.

You can also search the ACUTA database for information on vendors listed by product and service. The on-line "Products and Services Guide" features ACUTA Corporate Affiliates, but also includes other companies in the industry offering various telecommunications-related products.

It has been a busy year for all, but we can look back with a sense of accomplishment on a year in which the ACUTA volunteer leaders and staff focused on expanding the range of services available to members, the telecom industry, and the higher education community targeted to meet your growing and changing needs.



D C at a Glance

Whitney L. Johnson

Universal Service

ACUTA organized its first audio conference call around the Universal Service issue with about 140 member sites present on June 12. The speaker was Brian Moir, a Washington D.C. attorney. Mr. Moir spent the first half hour discussing the recent FCC Order and then the call was opened to questions from participants. A lot of questions were still in the queue when time came to end the call.

Mr. Moir identified three areas that ACUTA members should monitor for rate increases and special fees that will go into the Universal Services Fund (USF). This fund will be used to support, among other things, discounts for some telecom services to public schools and libraries.

1. The increase in the subscriber line charge (SLC) cap that the local exchange carrier (LEC) uses when billing for both residential and business telephone service. Higher price caps may open the door for the LEC to pass on to the user increases in costs due to what the LEC has to pay into the USF. The SLC that the LEC uses is the lower of the price cap that is applicable and one-twelfth of the annual line costs allocated to the interstate jurisdiction divided by the number of access lines using the particular type of service. Mr. Moir suggested that ACUTA members carefully check any contracts between the institution and the LEC that may limit the SLC that the LEC can charge the institution. Remember, the LEC is the unit that must pay into the USF on this item and not the institution.

2. The increase in the primary interexchange carrier charge (PICC) which is a flat-rated, per-line monthly charge paid to LECs by interexchange carriers (IXCs). Mr. Moir recommended that all institutions negotiate with the IXC for any increase that the IXC may want to impose on them based on the PICC. In this case it seems to be the IXC that will be paying into the USF.

3. Colleges and universities probably will have to contribute directly into the USF if they resell interstate long distance service to students. According to *Telecommunications Reports* (5/12), "Carriers that provide such services (interstate telecommunications services) for a fee 'directly to the public, or to such classes of users as to be effectively available to the public,' are 'mandatory' contributors....The Act authorizes the FCC to require 'any other provider of interstate telecommunications' to contribute. The Commission said it will use that authority to require contributions from payphone aggregators (independent, or non-carrier, payphone providers) and private service providers (non-common carriers) that offer interstate telecom services to others for a fee." Institutions will have difficulty getting out of paying into the USF, but Moir suggested that we present our cases to the FCC and see what happens.

FCC Membership

There are now four vacancies on the FCC. Chairman Reed Hundt has announced his resignation effective as soon as a replacement can be found. FYI, he is writing a book on deregulation in the telecom industry.

It is expected that by the end of the year the new appointments will be in place filling the three previously announced Commission vacancies. Only three of the five positions on the commission can be of the same political party. Susan B. Ness (Democrat), is the only Commissioner not expected to leave this year. Four new people out of five may change the way the Commission works and acts on issues.

AT&T and SBC Merger?

SBC and Pacific Telesis Group just completed a merger and now the new company is talking with AT&T. FCC Chairman Hundt has indicated that this merger is "unthinkable" (TR 6/23). There is speculation as to whether such a merger is in line with or in opposition to the intent of the Telecom Act of 1996.

Supreme Court Rules Against Communications Decency Act

In a 7-2 decision on June 26, the U.S. Supreme Court struck down the Communications Decency Act (CDA), saying the broad scope and vagueness of the act violated the freedom of speech guaranteed under the First Amendment. At issue is whether the restriction of speech under the guise of protecting minors outweighs the right to receive and send material over the Internet, regardless of content.

CDA was the controversial amendment to the Telecommunications Act of 1996 introduced by former Senator James Exon (NE-D).

Writing for the majority, Justice Stevens wrote that the CDA "statute abridges the freedom of speech protected by the First Amendment." Of particular concern is what "community standards" would be applied in determining what is deemed "indecent" speech. The Court's decision throws the issue back to Congress where the Internet Freedom and Child Protection Act is receiving favorable attention from the White House.

See the full text of the Supreme Court decision at <http://www.ciec.org>.

Anniversaries

Continued from page 4

10 Years

Diane Blake UCLA
Katharine Brady ... St. Mary's Coll. of CA
Janice Brownlow Texas Tech Univ.
Paul Costello Univ. of Miami
Robert Hopper Purdue Univ. Calumet
Ruben Lopez Univ. of Miami
Mark Mabe MO Western State Coll.
Jean Richer Williams Coll.
Dick Rossi Cal State/Sacramento
Jo Ellen Schulz Gustavus Adolphus

15 Years

J. Paul Colvin Lane Comm. Coll.
Darel Eschbach Arizona State Univ.
Craig Kontny Auraria Higher Ed. Ctr.
Clair McNicholas Temple Univ.
Dave Metz Compass Consulting
Robert Riley Univ. of AL
Steve Schram Northeast Comm. Coll.

20 Years

Daveda Russell Chicago State Univ.

We greatly appreciate your help as we prepare to recognize these significant anniversaries.

Update.....

Please submit "position available" information electronically to afuehrer@acuta.org or to ACUTA's homepage: <http://www.acuta.org>. Descriptions abbreviated in the newsletter.

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LEXINGTON, KY
PERMIT NO. 481

Position Available: Telecommunications Manager, Capital University

Responsibilities: Provide first line of contact with campus technology users; day-to-day operations of telephone switch, voice-mail system, call acct. software; admin./student long dist. billing/collections.

Qualifications: BA/BS related, 3 yrs. exp. or equiv.; knowledge/ability to manipulate applic. software in mgmt. of complex telecom operation; strong service commitment & orientation. **To apply:** Resume & 3 refs to Dr. Robert Paterson, Dir., Info. Technology, Capital Univ., Columbus OH 43209-2394; e-mail rpaterse@capital.edu. Web site: www.capital.edu. EOE; Women & minorities encouraged to apply.

Position Available: Director, Telecom. Services, Wichita State Univ.

Responsibilities: Manage telecom resources & services incl. voice, data, & long distance service; technical oversight/mgmt. of projects; training of support staff; maintenance of telecom infrastructure. **Qualifications:** BA/BS; adv. degree pref. **To apply:** Send resume, academic transcripts, salary history, & 3 prof. refs to: Wichita State Univ., Univ. Computing & Telecom Svcs., Attn: Gary L. Ott, Exec. Dir., 1845 N. Fairmount, Wichita, KS 67260-0098. Deadline: 6/30/97 or until position is filled. AA/EOE

Position Available: Director, Acad. Comp. & Networking Svcs., Colorado State Univ.

Responsibilities: Mgmt/planning for networking; cent. acad. computing; telephone svc.; voice, video, data media infrastructure. **Qualifications:** MA/MS (Ph.D. desirable), 5+ yrs mgmt. responsibility; ability to manage personnel, budgets, operations/projects; exp. working at state/reg./national levels, with federal/state regulatory bodies. Able to articulate vision; possess implementation skills; service background/orientation. **To apply:** Letter, resume, & 3 prof. refs to: Don Hesser, Chair, Search Committee, Info. Systems, Colo. State Univ., Fort Collins, CO 80523. Apply by 7/25/97. www.colostate.edu EEO

Position Available: Media Production Specialist, Michigan Technological Univ.

Responsibilities: Develop & produce instructional media including distance learning technical support, videography, computer graphics, video editing. **Requirements:** Assoc. deg. in communications/technology related or equivalent; exp. in technical use of TV studio equip. or related; communication exp & problem-solving skills. **To apply:** Send cover letter, current resume, & 3 work-related refs to: Media Production Specialist Position, Human Resources, Michigan Tech. Univ., 1400 Townsend Dr., Houghton, MI 49931-1295. Apps accepted until position is filled. www.mtu.edu EOE

2 Positions Available: (1) Director, Integrated Tech. Svcs., Univ. of Redlands

Responsibilities: Plans, coordinates, manages University's Info tech, telecom, & networking infrastructure. Develops/maintains standards, policies, procedures to ensure usability, compatibility, legality, security of hardware/software & systems. **Qualifications:** MA/MS + 5 yrs exp. managing telecom & admin. info. sys.; or BA/BS + 7 yrs exp; or 10 yrs OTJT. Strong leadership, communication, planning, analytical, & problem-solving skills; customer service orientation. Position Code: A6033.

(2) Network Analyst, University of Redlands

Responsibilities: Implement/support campuswide data network incl. planning/coordinating installation of campus backbone network, incl. cable & communication infrastructure. **Qualifications:** BA/BS, 3+ yrs exp. w/ network eng. & analysis, or 5+ yrs OTJT. Strong project mgmt./team leadership skills. **To apply:** Letter of application, resume, & 3 prof. refs to Human Resources, Univ. of Redlands, P.O. Box 3080, Redlands, CA 92373-0999. Ph. 909/798-7482. Fax: 909/335-5154.

Position Available: Telecom Analyst, Central Washington University

Responsibilities: Performs admin. tasks on Nortel PBX, Octel voice messaging system; supervises all acct functions; coordinates activities of technicians, works on major projects. Highly-motivated team player. **Qualifications:** 2 yrs college or equiv OTJT AND 2 yrs exp. as telecom analyst n PBX environment. **To apply:** Human Resources, CWU, Ellensburg, WA 98926-7425, (509)963-1202.

Position Available: Telecommunications Business Mgr., Univ. of Michigan, Ann Arbor

Responsibilities: Plan/manage voice, data, video services, incl. cust. service, billing, records admin, business planning, & vendor liaison. **Qualifications:** BA/BS rel., adv. deg. pref. Signif. exp. in admin, supervision, operations, customer inquiries/complaints; 8+ yrs exp. & knowledge of modern telephony & telephone products. **To apply:** 2 copies of resume & 3 refs to: ITD - Tel. Bus. Mgr., Andrea Alyn, 519 W. William, Ann Arbor, Mi. 48103-4943. www.umich.edu AA/EEO



Association of College & University
Telecommunications Administrators
152 W. Zandale Dr., Suite 200
Lexington, KY 40503-2486